

LITHOGRAPHIC PROJECTION METHOD AND APPARATUS

ABSTRACT OF THE DISCLOSURE

A lithographic projection apparatus for successively projecting a pattern on wafers by preliminarily determining locations of surface points of each wafer before it is
5 illuminated in a projection station has a pair of measuring stations arranged oppositely with respect to the projection station at the center. Each measuring station has a wafer surface sensor for determining the locations of surface points of the wafer carried on a stage and a stage height sensor for measuring the height of a reference plane on the stage. A wafer on a stage is placed in one of the measuring stations to have measurements taken and ideal
10 height data are collected while another wafer is being illuminated in the projection station. After these measurement and illumination processes are completed, the illuminated wafer is removed from the projection station and replaced with a new wafer to be measured and illuminated. In the meantime, the measured wafer is transported into the projection station while the stage height sensor continues to monitor the height of its reference plane by using
15 a measuring beam. Once inside the projection station, the collected ideal height data are used to control the wafer during exposure.